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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,721	08/22/2001	Yasuo Ojima	08009.0006	6271
7590	03/02/2004			
Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P. 1300 I Street, N.W. Washington, DC 20005-3315			EXAMINER ANDREWS, MELVYN J	
			ART UNIT 1742	PAPER NUMBER

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/933,721	<b>Applicant(s)</b> OJIMA ET AL. 
	<b>Examiner</b> Melvyn J. Andrews	<b>Art Unit</b> 1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 to 3 and 5 to 9 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The expressions "greater than 0.6 to 0.85" and "greater than 0.5 to 0.6" in Claims 1 and 5 are new matter. These limitations are not present in the application as originally filed.

***Claim Rejections - 35 USC § 102/ 35 USC §103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 to 3 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Japanese patent (JP 2000-63963) (Translation Patent Abstracts of Japan). The Japanese patent anticipates the claims for the reasons set forth in Paper No.6.

Applicants' arguments filed February 11, 2003 have been fully considered but they are not persuasive. Applicants argue that JP'963 does not disclose the "CaO ratio

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being greater than 0.5 to 0.6" this is correct but nevertheless there is no patentable difference between the '963 ratio 0.6 and the claimed ratio greater than 0.6 so that the claims are anticipated by JP'963 since the numerical values of ratios touch In re Titanium Metals Corporation of America v. Banner 227 USPQ 773.

Claims 1 to 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Japanese patent (JP 2000-63963) (Translation Patent Abstracts of Japan). The '963 ratio does not overlap the claimed ratio but are close enough that one skilled in the art at the time the invention was made would have expected that the ratios would have the same properties with respect to the removal of Fe and S from the product. In re Titanium Metals Corporation of America v. Banner 227 USPQ 773.

Claims 5 to 9 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese patent (JP 2000-63963) (Translation Patent Abstracts of Japan). The Japanese patent anticipates the claims for the reasons set forth in Paper No.6. Applicants argue that JP'963 does not disclose the "CaO ratio being greater than 0.5 to 0.6" this is correct but nevertheless there is no patentable difference between the '963 ratio 0.6 and the claimed ratio greater than 0.6 so that the claims are anticipated by JP'963 since the numerical values of ratios touch In re Titanium Metals Corporation of America v. Banner 227 USPQ 773; likewise, with respect to the '963 Fe ratio which touches the claimed Fe ratio greater than 0.5.

Claims 5 to 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Japanese patent (JP 2000-63963) (Translation Patent Abstracts of Japan). The '963 ratio does not overlap the claimed ratio but are close enough that one skilled in the art

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at the time the invention was made would have expected that the ratios would have the same properties with respect to the removal of Fe and S from the product. In re Titanium Metals Corporation of America v. Banner 227 USPQ 773.

Claims 1 to 3 and 5 to 9 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 00/09772 (Yazawa et al, US Patent No. 6,416,565 the English equivalent of publication WO 00/09772 ). The WO 00/09772 publication is relied on for its publication date but the US Patent is relied on as an English language equivalent. Yazawa et al discloses a method of removing Fe and S from a copper sulfide concentrate such that the slag has a composition in which a weight ratio of CaO to (SiO<sub>2</sub>+CaO) is 0.3 to 0.6 and a weight ratio of Fe to (FeO<sub>x</sub> + SiO<sub>2</sub> +CaO) of 0.2 to 0.5 (col.11, line 46 to col.12 line 56) which anticipates the claimed methods since the ratios touch, In re Titanium Metals Corporation of America v. Banner 227 USPQ 773; alternatively, the claimed methods are obvious even though the Yazawa et al Fe to S ratios do not overlap the claimed ratio but are close enough that one skilled in the art at the time the invention was made would have expected that the ratios would have the same properties with respect to the removal of Fe and S from the product. In re Titanium Metals Corporation of America v. Banner 227 USPQ 773.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 to 3 and 5 to 9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 to 10 of U.S. Patent No. 6,416,565. Although the conflicting claims are not identical, they are not patentably distinct from each other because the '565 slag composition containing CaO and Fe does not patentably differ from the claimed slag composition. In re Titanium Metals Corporation of America v. Banner 227 USPQ 773

### ***Response to Arguments***

Applicant's arguments filed October 16, 2003 have been fully considered but they are not persuasive. The crux of applicants' arguments is based on the ratios but ratios claimed are new matter, as set forth above, so that the art rejections are being maintained.

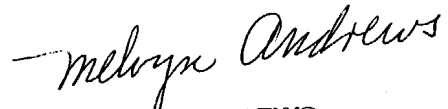
With respect to the temperature Yazawa et al disclose that the temperature of the produced slag is maintained up to 1300° C (col.12, Claim 10) which overlaps the claimed temperature range.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvyn J. Andrews whose telephone number is (571)272-1239. The examiner can normally be reached on 8:00A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on (571)272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mja  
February 20, 2004

  
MELVYN ANDREWS  
PRIMARY EXAMINER